

CLAIMS

What is claimed is:

1. An insert for use in the fabrication of a watercraft hull to form an inboard/outboard propulsion system passageway by the hull being formed around the insert and subsequent removal of the insert from the hull to expose the passageway, comprising:

a semi-rigid body having a tapered sidewall with opposed sections and a base surface, and an perimeter lip formed at the intersection of the base surface and the sidewalls.
2. The insert of claim 1, wherein the semi-rigid body is formed of a material selected from the group consisting of polyurea, polyurethane and a polyurea/polyurethane compound.
3. The insert of claim 1, wherein the tapered sidewall opposed sections comprise a first set of opposed tapered sections each having a base edge at the perimeter lip generally parallel with one another, and a second set of opposed tapered sections interconnecting the first set of opposed tapered sections.
4. The insert of claim 1, wherein the semi-rigid body is formed with one or more voids into which a tool may be inserted to facilitate manipulation of the position of the body with respect to watercraft hull to form the passageway.
5. The insert of claim 4, wherein the base surface comprises an outboard surface, and wherein the one or more voids comprise through-holes extending from the outboard surface of the semi-rigid body to an inboard surface of the semi-rigid body.

6. The insert of claim 1, wherein the tapered sidewall tapers continuously from the perimeter lip in a direction away from the base surface.
7. The insert of claim 1, wherein the semi-rigid body has a shore D hardness value of less than about 90.
8. The insert of claim 7, wherein the semi-rigid body has a shore A hardness value of greater than about 65.
9. The insert of claim 1, wherein the semi-rigid body is formed of a more rigid material in a central region thereof and a less rigid material in a perimeter region thereof encompassing the tapered sidewall and the perimeter lip.
10. An insert configured to form an inboard/outboard propulsion system passageway in a boat hull, comprising a semi-rigid body having an inboard surface, an outboard surface and a sidewall spanning between the inboard and outboard surface, wherein the body has a shore D hardness value of less than about 90 and a shore A hardness value of greater than about 65.
11. The insert of claim 10, wherein the semi-rigid body is formed of a material selected from the group consisting of polyurea, polyurethane and a polyurea/polyurethane compound.
12. The insert of claim 10, further comprising a perimeter lip extending from the intersection of the sidewall and the outboard surface.

13. The insert of claim 12, wherein the semi-rigid body is formed of a more rigid material in a central region thereof and a less rigid material in a perimeter region thereof encompassing the sidewall and the perimeter lip.
14. The insert of claim 10, wherein the semi-rigid body is formed with one or more through-holes extending from the inboard surface to the outboard surface and into which a tool may be inserted to facilitate manipulation of the position of the body with respect to hull to form the passageway.
15. A process for fabricating a watercraft hull with an inboard/outboard propulsion system passageway, comprising:
 - providing an insert as a semi-rigid body having an inboard surface, an outboard surface, and a sidewall spanning between the inboard and outboard surface;
 - attaching the insert to a surface of a molding tool, the surface configured to shape an outermost surface of the watercraft hull;
 - applying a gel coat to the insert inboard surface and sidewall, and to the molding tool surface, the gel coat forming the outermost surface of the watercraft hull;
 - applying one or more laminate layers over the outermost surface of the watercraft hull and around the sidewall of the insert;
 - curing the laminate layers to form a finished watercraft hull;
 - demolding the finished watercraft hull from the molding tool surface; and
 - removing the insert from the watercraft hull to expose the inboard/outboard propulsion system passageway of the hull.

16. The process of claim 15, wherein the semi-rigid body is formed with one or more voids extending into the inboard surface into which a tool may be inserted to facilitate removal of the insert from the watercraft hull upon completion of the building of the material layers of the hull.
17. The process of claim 15, wherein the semi-rigid body is formed of a material selected from the group consisting of polyurea, polyurethane and a polyurea/polyurethane compound.
18. The process of claim 15, wherein the semi-rigid body is formed with a perimeter lip extending from the intersection of sidewall and the outboard surface.
19. The process of claim 18, wherein the sidewall tapers continuously from the perimeter lip towards the inboard surface.
20. The process of claim 18, wherein the semi-rigid body is formed of a more rigid material in a central region thereof and a less rigid material in a perimeter region thereof encompassing the sidewall and the perimeter lip.
21. The process of claim 15, further comprising the step of applying a release agent to the molding tool surface prior to attaching the insert thereto.
22. The process of claim 15, wherein the one or more laminate layers includes a fiber material in a liquid resin matrix and a core layer.